

WHAT IS CLAIMED IS:

1. A method for manufacturing hollow blades, in particular for gas turbines, such as aircraft engines, at least three elements (20, 21, 22) being arranged one over another in a sandwich-type structure, joined to one another at least in portions thereof by diffusion welding, and subsequently superplastically deformed by inflation processes, so that a first element (20) forms a first outer wall of the hollow blade to be manufactured, a second element (22) forms a second outer wall of the hollow blade to be manufactured, and a third element (21), which extends in between the two outer walls of the hollow blade to be manufactured, forms a middle element, wherein at least one nick-minimizing structure is introduced in each case into the first element (20) and the second element (22), which form the two outer walls of the hollow blade to be manufactured, before assembling the same, together with the third element (21), to form a sandwich-type structure .
2. The method as recited in claim 1, wherein the or each nick-minimizing structure is introduced into an inner side (23, 24) of the first element (20) and of the second element (22).
3. The method as recited in claim 2, wherein the first element (20) and the second element (22) are assembled together with the third element (21) to form a sandwich-type structure in such a way that, by way of the nick-minimizing structures, the inner sides (23, 24) of the first element (20) and of the second element (22), respectively, face the third element (21).
4. The method as recited in claim 2 or 3, wherein, as a nick-minimizing structure, one recess (25, 26) is introduced into inner sides (23, 24) of the first element (20) and of the second element (22), respectively.
5. The method as recited in claim 4, wherein a planar recess (25, 26) is introduced into the inner side (23, 24) of the first element (20) and of the second element (22), respectively.
6. The method as recited in claim 4 or 5,

wherein the recesses (25, 26) are introduced into the inner side (23, 24) of the first element (20) and of the second element (22), respectively, in such a way that, in one middle section (27, 28), the elements (20, 22) have a smaller material thickness than in lateral sections (29, 30).

7. The method as recited in claim 6,
wherein the recesses (25, 26) are introduced into the inner side (23, 24) of the first element (20) and of the second element (22), respectively, in such a way that, between the middle section (27, 28) and the lateral sections (29, 30), the elements (20, 22) have a continuous or stepless transitional profile (31).
8. The method as recited in claim 7,
wherein, in cross section, the continuous or stepless transitional profile (31) has a circular or elliptical form.
9. The method as recited in claim 8,
wherein the recesses (25, 26) are introduced into the inner sides (27, 28) of the first element (20) and of the second element (22), respectively, by milling.
10. The method as recited in one or more of the claims 1 through 9,
wherein the pressure required for diffusion welding is preferably supplied in such a way that, during the diffusion welding process, the first element (20) and the second element (22) are pressurized in the area of the or of each continuous or stepless transitional profile (31) in such a way that, following the diffusion welding in the area of the or of each transitional profile (31), a groove space (33) is formed.
11. The method as recited in claim 10,
wherein the pressure is provided by a mechanical press.